We claim:

1. A method for providing an indication of risk of a loan contemporaneously with origination of the loan, the method comprising the steps of:

receiving data for an applicant for a loan;

analyzing the received data utilizing a proportional hazards model;

computing the indication of risk for the loan; and

transmitting the computed default probability.

2. The method of claim 1 wherein the indication of risk is a probability of default.

3. The method of claim 1 wherein the proportional hazards model is of the form: $h(t \mid Z) = h_o(t) * \exp(\beta^T Z)$, where $h(t)$ is a hazard rate at time t, Z is a vector of covariates, and β is a vector of regression coefficients.

4. The method of claim 3 wherein the hazard rate represents a risk of default.

5. The method of claim 4 wherein the hazard rate is represented by a binary variable which indicates whether default was observed or not, and a time observed variable.

6. The method of claim 5 wherein the time observed variable is either a time to default or if default did not occur, a time until observation was censored.

7. The method of claim 5 further comprising the step of:

storing in a database the binary variables and the time observed variables for a plurality of past loans.

8. The method of claim 1 further comprising the step of:

additionally analyzing the received data utilizing a hat function model to allow nonlinear effects to be modeled in a continuous fashion.

9. The method of claim 8 wherein an independent variable, X, is mapped to a series of independent variables X_i which meet the constraints that X_i is a continuous variable over the range [0, 1] and each X_i is defined by a fuzzy membership function.

10. The method of claim 1 further comprising the step of:

transmitting a report to a potential loan originator including the indication of risk and highlighting a variable or variables recognized as contributing to the computed indication of risk in a substantial way.

11. The method of claim 10 wherein the indication of risk is a probability of default.

12. A method for predicting an indicator of the risk of a loan contemporaneously with origination of the loan, the method comprising the steps of:

determining a set of mortgage origination data to be analyzed;

storing the set of mortgage origination data in a database including the substep of storing two components for a subset of said set of mortgage origination data, said two components comprising a binary variable indicating whether an event was observed or not, and a time observed variable;

establishing and storing a hat function model for at least one independent variable X to be analyzed in which the independent variable X is mapped to a series of independent variables X_i which meet the constraints $\sum X_i = 1$ and the independent variables X_i are continuous variables over a range [0, 1], and each independent X_i is defined by a fuzzy membership function;

receiving a request to compute the indicator of the risk for data for a loan applicant; and

computing the indicator of the risk for said data utilizing the proportional hazards model and the hat function model.

13. The method of claim 12 further comprising the step of:

transmitting a mortgage report to a potential loan originator including the computed indicator of the risk.

14. The method of claim 12 wherein the indicator of the risk is a probability of default.

15. The method of claim 13 further comprising the step of:

automatically analyzing said data to determine which variable or variables within said data contribute in a substantial way to the computed indicator of the risk; and

including an identification of said variable or variables in the mortgage report.

16. The method of claim 12 further comprising the step of:

regularly updating the stored set of mortgage origination data as additional data becomes available.

17. A method for predicting an indicator of the risk of a loan contemporaneously with origination of the loan, the method comprising the steps of:

receiving data for an applicant for a loan;

analyzing the received data utilizing a hat function model;

computing the indicator of the risk for the loan; and

transmitting the indicator of the risk.

18. The method of claim 17 wherein the indicator of the risk is a probability of default.

19. The method of claim 17 wherein the hat function model maps an independent variable, X, to a series of independent variables X_i which meet the constraints that X_i is a continuous variable over the range [0, 1] and each X_i is defined by a fuzzy membership function.

20. The method of claim 17 further comprising the step of:

additionally analyzing the received data utilizing a proportional hazards model of the form $h(t \mid Z) = h_o(t) * \exp(\beta^T Z)$, where $h(t)$ is a hazard rate at time t, Z is a vector of covariates, and β is a vector of regression coefficients.

21. The method of claim 20 wherein the hazard rate represents a risk of default.

22. The method of claim 21 wherein the hazard rate is represented by a binary variable which indicates whether default was observed or not, and a time observed variable.

23. The method of claims 22 wherein the time observed variable is either a time to default or if default did not occur, a time until observation was censored.

24. The method of claim 22 further comprising the step of:

storing in a database the binary variables and the time observed variables for a plurality of past loans.

25. The method of claim 17 further comprising the step of:

transmitting a report to a potential loan originator including the indicator of the risk of default and highlighting a variable or variables recognized as contributing to the computed probability of default in a substantial way.

26. A system for predicting the default probability of a loan contemporaneously with origination of the loan, the system comprising:

a database storing the set of mortgage origination data including two components for a subset of said set of mortgage origination data, said two components comprising a binary variable indicating whether an event was observed or not, and a time observed variable;

a memory storing a hat function model for at least one independent variable X to be analyzed in which the independent variable X is mapped to a series of independent variables X_i

which meet the constraints $\Sigma X_i = 1$ and the independent variables X_i are continuous variables over a range [0, 1], and each independent X_i is defined by a fuzzy membership function;

an input to receive a request to compute a probability of default for data for a loan applicant; and

a programmed computer to automatically compute the probability of default for said data utilizing the proportional hazards model and the hat function model.

27. The system of claim 26 further comprising:

a communication mechanism for transmitting a mortgage report to a remote potential loan originator including the computed probability of default.

28. The system of claim 27 wherein the computer is further operable to automatically analyze said data to determine which variable or variables within said data contribute in a substantial way to the computed probability of default; and to include an identification of said variable or variables in the mortgage report.

29. The system of claim 27 further comprising:

means for regularly updating the stored set of mortgage origination data as additional data becomes available.

30. A system for predicting a default probability of a loan contemporaneously with origination of the loan, the system comprising:

a server receiving data for an applicant for a loan;

the server including a programmed processor operable to analyze the received data utilizing a software based proportional hazards model;

the server further operable to compute the default probability for the loan; and

a communication mechanism to transmit the computed default probability.

31. The system of claim 30 wherein the proportional hazards model is of the form: $h(t \mid Z) = h_o(t) * \exp(\beta^T Z)$, where $h(t)$ is a hazard rate at time t, Z is a vector of covariates, and β is a vector of regression coefficients.

32. The system of claim 30 wherein the hazard rate represents a risk of default.

33. The system of claim 32 wherein the hazard rate is represented by a binary variable which indicates whether default was observed or not, and a time observed variable.

34. The system of claim 33 wherein the time observed variable is either a time to default or if default did not occur, a time until observation was censored.

35. The system of claim 33 further comprising:

a database storing the binary variables and the time observed variables for a plurality of past loans.

36. The system of claim 30 wherein the server if further operable to analyze the received data utilizing a hat function model to allow nonlinear effects to be modeled in a continuous fashion.

37. The system of claim 36 wherein an independent variable, X, is mapped to a series of independent variables X_i which meet the constraints that X_i is a continuous variable over the range [0, 1] and each X_i is defined by a fuzzy membership function with said mapping stored in a memory.

38. The system of claim 30 further comprising:

means for automatically generating and transmitting a report to a potential loan originator including the computed probability of default and highlighting a variable or variables recognized as contributing to the computed probability of default in a substantial way.